

What is claimed is:

1. A radiation image conversion panel comprising at least:

a support body; and

a phosphor layer provided on said support body;

wherein said phosphor layer contains a binding agent, a phosphor, and at least aryl carboxylic acid or alicyclic carboxylic acid, expressed by the following general Formula:



in which R represents (1) an aryl group; (2) an aryl group, replaced with an alkyl group whose number of carbons is 1 to 5, a hydroxyl group, a carboxylic acid group, or a halogen group; (3) a hydroaryl group; or (4) a hydroaryl group (alicyclic group), replaced with an alkyl group whose number of carbons is 1 to 5, a hydroxyl group, or a halogen group; R^1 is a hydrocarbon radical whose number of carbons is 1 to 12; and X represents a hydrogen atom, alkaline metal, or $-N^+(R^2)_4$ (where R^2 represents an alkyl group whose number of carbons is 2 or less).

2. The radiation image conversion panel as set forth in claim 1, wherein the letter R in said general Formula is either (1) an aryl group or (2) an aryl group, replaced with an alkyl group whose number of carbons is 1 to 5, a hydroxyl group, or a halogen group.

3. The radiation image conversion panel as set forth in claim 1, wherein said binding agent is thermoplastic elastomer with a softening temperature or melting point of 30 to 150°C.

4. The radiation image conversion panel as set forth in claim 2, wherein said binding agent is thermoplastic elastomer with a softening temperature or melting point of 30 to 150°C.

5. The radiation image conversion panel as set forth in claim 3, wherein said binding agent is polyurethane resin.

6. The radiation image conversion panel as set forth in claim 4, wherein said binding agent is polyurethane resin.

7. A method of manufacturing a radiation image conversion panel which comprises at least a support body and a phosphor layer, provided on said support body, which contains (1) a binding agent, (2) a phosphor, and (3) aryl carboxylic acid or alicyclic carboxylic acid, expressed by the following general Formula:



in which R represents (1) an aryl group; (2) an aryl group, replaced with an alkyl group whose number of carbons is 1 to 5, a hydroxyl group, a carboxylic acid group, or a halogen group; (3) a hydroaryl group; or (4) a hydroaryl group (alicyclic group), replaced with an alkyl group whose number of carbons is 1 to 5, a hydroxyl group, or a halogen group; R^1 is a hydrocarbon radical whose number

of carbons is 1 to 12; and X represents a hydrogen atom, alkaline metal, or $-N^+(R^2)_4$ (where R^2 represents an alkyl group whose number of carbons is 2 or less);

said method comprising the step of forming said phosphor layer by dispersing and coating said phosphor, said aryl carboxylic acid or alicyclic carboxylic acid, and said binding agent.

8. A method of manufacturing a radiation image conversion panel which comprises at least a support body and a phosphor layer, provided on said support body, which contains (1) a binding agent, (2) phosphor particles, and (3) aryl carboxylic acid or alicyclic carboxylic acid, expressed by the following general Formula:



in which R represents (1) an aryl group; (2) an aryl group, replaced with an alkyl group whose number of carbons is 1 to 5, a hydroxyl group, a carboxylic acid group, or a halogen group; (3) a hydroaryl group; or (4) a hydroaryl group (alicyclic group), replaced with an alkyl group whose number of carbons is 1 to 5, a hydroxyl group, or a halogen group; R^1 is a hydrocarbon radical whose number of carbons is 1 to 12; and X represents a hydrogen atom, alkaline metal, or $-N^+(R^2)_4$ (where R^2 represents an alkyl group whose number of carbons is 2 or less);

said method comprising the steps of:

performing a surface process on particles of said phosphor with said aryl carboxylic acid or alicyclic carboxylic acid; and

5 forming said phosphor layer by dispersing and coating said surface-processed phosphor particles on said binding agent.

10 9. The radiation image conversion panel as set forth in claim 7, wherein said phosphor layer, formed by dispersing and coating said surface-processed phosphor particles, and said support body are bonded together by placing said phosphor layer on said support body and compressing said phosphor layer at a temperature higher than the softening temperature or melting point of said binding agent.

15 10. The radiation image conversion panel as set forth in claim 8, wherein said phosphor layer, formed by dispersing and coating said surface-processed phosphor particles, and said support body are bonded together by placing said phosphor layer on said support body and compressing said phosphor layer at a temperature higher than the softening temperature or melting point of said binding agent.